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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,793	03/30/2005	Holger Winkler	MERCK-2993	1498
23599 7590 12/24/2008 MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201				
EXAMINER VARGOT, MATHEU'D				
ART UNIT		PAPER NUMBER		
1791				
MAIL DATE		DELIVERY MODE		
12/24/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/529,793

**Applicant(s)**

WINKLER ET AL.

**Examiner**

Mathieu D. Vargot

**Art Unit**

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 October 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.  
4a) Of the above claim(s) 1-6 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 7-14 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☒ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SE-08)  
Paper No(s)/Mail Date 3/20/05 & 3/20/06  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

1.Applicant's election with traverse of Group II, claims 7-14 in the reply filed on October 10, 2008 is acknowledged. The traversal is on the ground(s) that there would be no undue burden should all claims be examined together. This is not found persuasive because as noted in the restriction requirement, Group I claims recite a particle and use therefor, which appears to be taught in a prior reference. Also, the particle claims would be searched in the article and polymer classes, whereas these mandatory searches would not be required for examination of the process of making the inverse opal structure. Hence, an undue burden would indeed be imposed on the office should restriction not be made.

The requirement is still deemed proper and is therefore made FINAL.

2.Claims 7-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In all the claims, the language "characterized in that" holds no specific legal meaning and applicant is requested to use language such as —comprising— instead. Claim 7 calls for drying a dispersion in step a), while claim 8 refers to particles that have been pre-dried. Is the pre-drying of claim 8 the same as the drying of claim 7? Claim 8 should be rewritten to recite that step a) further involves the two substeps, if that is what is intended. As written, it is unclear if the steps of claim 8 are intended to be substeps for step a) of claim 7. Claims 11-13 use a "preferably..." clause which renders these claims indefinite as it is not clear whether the preferred limitation is actually part of the claim. Preferred limitations should be set forth in separate dependent claims. Claim 14

is indefinite in calling for the core/shell particles being removed when claim 7 already recites that the cores are removed. It would appear that claim 14 fails to further limit claim 7.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art as set forth in paragraphs 0008-0011 and paragraph 0019. The admitted prior art as disclosed at paragraphs 0008-0011 shows that the instant process of making inverse opal structures by using a dispersion of particles, drying them, the (optional) step of adding wall precursors as set forth in the base claim and instant claim 10 (paragraph 0010) and removing the particles using calcination (0009) or HF acid etching (0008) is known. The only aspect not taught in the admitted prior art is a step of employing the instant core/shell particles with which to make the inverse opal structures. However, applicant admits in paragraph 0019 that these particles are known in the art. Since the prior art that makes inverse opal structures uses polymer particles, there is every reason to believe that employing the instant core/shell particles would have been obvious as one would expect any known particle to function as a template for an inverse opal, particularly since the particles are subsequently removed. It is submitted that the aspect of performing the optional wall material precursor adding step of claim 7 under vacuum (ie, instant claim 11) does not have to be explicitly met, since

the step is optional. However, the drying is conducted under vacuum and it would have been obvious to have added the wall precursor material under vacuum as well to ensure complete wetting of the particle structure.

4. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art as set forth in paragraphs 0008-0011 and paragraph 0019 in view of Japanese Kokai 4-21514.

The admitted prior art is applied for reasons of record and discloses the basic claimed method as set forth in paragraph 3, lacking essentially the aspect of using a mechanical force to the particles, the force being a uniaxial pressing. Japanese -514 teaches uniaxial pressing to form a dispersion of particles when forming an inverse opal structure. It would have been obvious to one of ordinary skill in the art to employ a uniaxial pressing in the admitted prior art as taught by Japanese -514 to facilitate the formation of the desired template.

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thornton*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 7-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 10-15 of copending Application No. 10/570,607 in view of the admitted prior art of the instant application as set forth in paragraphs 0008-0019. Claims 10-15 of the copending application set forth a process similar to the instant involving the fabrication of a shell/core particle template wherein the particles are removed to leave a skeleton. Essentially, the claims of the copending application lack a reference to forming inverse opal-like structures from the skeleton. However, the admitted prior art of the instant specification teaches that forming inverse opal-like structures from particles fabricated into an appropriate skeleton is well known in the art. One of ordinary skill in the art would have readily understood that inverse opal-like structures would have been made using the general process claimed in the copending application using knowledge generally known in the art concerning the formation of such structures.

This is a provisional obviousness-type double patenting rejection.

6. Claims 7-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 8-14 of copending Application No. 10/582,494 in view of the admitted prior art of the instant application as set forth in paragraphs 0008-0019. Claims 8-14 of the copending application set forth a process similar to the instant involving the fabrication of a shell/core particle template wherein the particles are removed to leave a skeleton.

Essentially, the claims of the copending application lack a reference to forming inverse opal-like structures from the skeleton. However, the admitted prior art of the instant specification teaches that forming inverse opal-like structures from particles fabricated into an appropriate skeleton is well known in the art. One of ordinary skill in the art would have readily understood that inverse opal-like structures would have been made using the general process claimed in the copending application using knowledge generally known in the art concerning the formation of such structures.

This is a provisional obviousness-type double patenting rejection.

7. Claims 7-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 10-17 of copending Application No. 10/590,506 in view of the admitted prior art of the instant application as set forth in paragraphs 0008-0019. Claims 10-17 of the copending application set forth a process similar to the instant involving the fabrication of a shell/core particle template wherein the particles are removed to leave a skeleton. Essentially, the claims of the copending application lack a reference to forming inverse opal-like structures from the skeleton. However, the admitted prior art of the instant specification teaches that forming inverse opal-like structures from particles fabricated into an appropriate skeleton is well known in the art. One of ordinary skill in the art would have readily understood that inverse opal-like structures would have been made using the general process claimed in the copending application using knowledge generally known in the art concerning the formation of such structures.

This is a provisional obviousness-type double patenting rejection.

8. Claims 7-14 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 9-14 of U.S. Patent No. 7,291,394 in view of the admitted prior art as set forth in instant paragraphs 0008-0019. The claims of the previously issued patent call for making a composite having an optical effect from core/shell particles and placing the particles under a uniaxial pressing force. Essentially, the claims do not recite that it is an inverse opal-like structure made and that the cores/shell particles are removed to make the opal-like product. The admitted prior art in the instant application teaches that making particle templates and then removing the particles to form inverse opal-like products is well known in the art. It would have been obvious to one of ordinary skill in the art at the time of invention to have modified the claims of the previously issued patent by removing the cores/shells to form an inverse opal-like article dependent on particular optical effect desired for the final article.

9. Claims 7-14 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 26-30 of U.S. Patent No. 7,241,502 in view of the admitted prior art as set forth in instant paragraphs 0008-0019. The claims of the previously issued patent call for making a composite having an optical effect from core/shell particles and placing the particles under a mechanical pressing force. Essentially, the claims do not recite that it is an inverse opal-like structure made and that the cores/shell particles are removed to make the opal-like product. The admitted prior art in the instant application teaches that making particle templates and then removing the particles to form inverse opal-like products is well known in the art. It



would have been obvious to one of ordinary skill in the art at the time of invention to have modified the claims of the previously issued patent by removing the cores/shells to form an inverse opal-like article dependent on particular optical effect desired for the final article.

10. Claims 7-14 are rejected under 35 U.S.C. 103(a) as being obvious over either of USP 7,291,394 to Winkler et al or USP 7,241,502 to Anselmann et al for reasons generally set forth in paragraphs 8 and 9, supra.

The applied references have a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mathieu D. Vargot whose telephone number is 571 272-1211. The examiner can normally be reached on Mon-Fri from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson, can be reached on 571 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Vargot  
December 18, 2008

/Mathieu D. Vargot/  
Primary Examiner, Art Unit 1791